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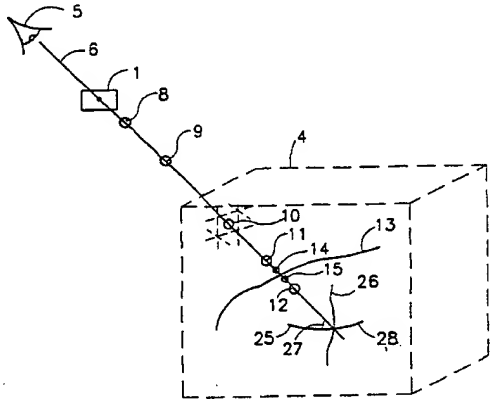
(54) Title: A METHOD FOR FORMING A PERSPECTIVE RENDERING FROM A VOXEL SPACE



(57) Abstract

A method for forming a high spatial resolution perspective rendering from a low spatial resolution voxel space is disclosed. The method comprises steps of: a) initializing a virtual window of predetermined resolution pixels, and placing the virtual window in or near the voxel space; b) sparsely ray–casting a plurality of vectors from a predetermined vantage–point through the virtual window into the voxel space; and c) calculating a visualization–value at a series of positions along each vector. In a position ordering of steps from the vantage–point to the pixel, an accumulated transparency–value threshold is calculated. Values of proximate voxels are interpolated into an interpolated voxel value for each position. The interpolated voxel values are then transformed into a derived visualization–value and transparency value.